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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/997,137	11/28/2001	Ming-Chih Chang	B-4394 619332-2	3414
36716	7590	08/22/2006	EXAMINER	
LADAS & PARRY 5670 WILSHIRE BOULEVARD, SUITE 2100 LOS ANGELES, CA 90036-5679			DIVECHA, KAMAL B	
			ART UNIT	PAPER NUMBER
			2151	

DATE MAILED: 08/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/997,137

Applicant(s)

CHANG ET AL.

Examiner

KAMAL B. DIVECHA

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 July 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 and 10-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 10-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

**Response to Arguments**

Claims 1-6, 10-17 are pending in this application.

Applicant's arguments filed July 14, 2006 have been fully considered but they are not persuasive.

In response filed, applicant argues in substance that:

a. Klimenko fails to disclose "a diskless client, comprising a transforming device, which retrieves a hard disk access command originally transmitted from the diskless client to a hard disk of the diskless client, packs the hard disk access command and an identity number relative to the diskless client into a package, and delivers the package to a network (remarks, page 7-8).

In response to argument [a], the rejection is moot in view of new grounds of rejection.

b. The MAC address of the network interface card of the client PC, however is not identical to an "identity number relative to the diskless client", because a client PC may be simultaneously equipped with multiple network interface cards and have multiple MAC addresses (remarks, page 7, page 11).

In response to argument [b], Examiner disagrees in light of the following:

Applicant failed to provide a reasonable interpretation of the term "identity number" in the disclosure. The specification merely teaches "...a relative identity number will be in the package to identify the client..." (See specification, page 2).

Therefore, based on the broadest reasonable interpretation that is consistent with the specification, the MAC address of the network interface card of the client is identical to an identity number relative to the client simply because they both identify the clients.

In response to applicant argument that the MAC address of the network interface card of the client is not identical to an identity number relative to the diskless client because a client PC may be simultaneously equipped with multiple network interface cards, Examiner acknowledges applicant's understanding, however not all the PCs in the network are equipped with multiple network interface cards, as evident by Klimenko (col. 9 L55 to col. 10 L5, col. 10 L50 to col. 11 L25).

c. Kedem does not disclose "an interface circuit, used to receive a hard disk access command originally transmitted from the diskless client to a hard disk of the diskless client" (remarks, page 11).

In response to argument [c], Examiner disagrees due to following reasons:

First, applicant's specification states "clients 2, 4, 6, 8 are diskless systems because the server provides them with a centralized storage...(specification, page 1)". Furthermore the specification suggests that "clients 20-2n themselves do not have hard disks...(specification, page 4 lines 17-26).

Based on the teachings above, It is unclear how the system can receive a hard disk access command originally transmitted from the diskless client to a hard disk of the diskless client. (i.e. may be the system is incompatible).

Secondly, Kedem explicitly discloses the system comprising an interface circuit that receives or intercepts the hard disk access commands that are originally intended for transmission from the diskless client to a storage device of a PC (col. 9 L9-47 and col. 10 L35-67, col. 13 L45-59).

For the at least reasons set forth above, the REJECTION IS MAINTAINED.

**DETAILED ACTION**

**Claim Rejections - 35 USC § 112**

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-6, 10-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims recite “at least one diskless client...which retrieves a hard disk access command originally transmitted from the diskless client to a hard disk of the diskless client..”

However, the specification describes that the clients do not have hard disks (see specification, page 4). As such the claims are considered indefinite.

For examining purposes, the recites limitation would be interpreted as wherein a client receives a hard disk access command intended for storage device of the PC from the client.

**Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

1. Claims 1-6, 10-17 are rejected under 35 U.S.C. 103(a) as being obvious over Kedem et al., (hereinafter Kedem, U. S. Patent No. 6,477,624 B1) in view Klimenko (U. S. Patent No. 5,974,547).

As per claim 10, Kedem discloses a transforming device used in centralized network storage system and installed in a diskless client (fig. 2 item #202, fig. 3 item #202 and fig. 4 item #202), wherein the transforming device is connected to a server through a network (fig. 2 item #202, 204 and fig. 4), the transforming device comprising:

- an interface circuit, **used** to receive a hard disk access command originally transmitted from the diskless client to a hard disk of the diskless client, wherein the hard disk access command complies with a peripheral interface standard allowing for connecting of a peripheral

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device to a PC (col. 2 L35-67, col. 6 L10-61, col. 9 L9-46, col. 10 L35-51, L62-67; fig. 2, fig. 3 item #312, fig. 4 item #401, col. 10 L58-62 and col. 13 L60-65; col. 8 L43-66);

- a logical circuit, connected to the interface circuit for packing both the hard disk access command and an identity number unique to the diskless client into the data package (fig. 3 item #310, fig. 4 item #406 and col. 9 L34-40, col. 6 L10-26: please note Kedem discloses sending a read packet, therefore it is obvious that the packet was prepared, i.e. packed, and as it's known in the art that every packet includes a unique source address or identifier); and

- a network controller, connected to the logical circuit (fig. 4 item #402), for delivering the package to the network (col. 9 L34-40, col. 17 L35-43 and fig. 2, fig. 3 item #308);

wherein after receiving the packet, the server implements a requested disk access process on storage area according to the hard disk access command contained in the package (col. 9 L9-46, col. 18 L35-56), however, Kedem does not disclose the process wherein the server implements a requested disk access process on a storage area represented by the identity number contained in the package.

Klimenko, from the same field of endeavor discloses a server, connected to the at least one diskless client through the network (fig. 1 item #50 and item #30), comprising a centralized storage device divided into at least one storage area, each of which respectively corresponds to each of the diskless clients (fig. 2B item #280(1) to 280(n)); wherein after receiving the at least one network packet, the server reconstructs the data package from the at least one network packet, extracts the hard disk access command and the identity number contained therein in the data package (fig. 12 item #1210 and fig. 13), and implements a requested disk access process on

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the storage area relative to the diskless client represented by the identity number according to the hard disk access command (fig. 14, col. 16 L55 to col. 17 L3, col. 17 L18 to col. 18 L15) .

Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Kedem in view of Klimenko in order implement the requested command on a storage area relative to the clients identifier.

One of ordinary skilled in the art would have been motivated because it would have provided a mechanism for read and write process to and from a designated client disk area or storage area (Klimenko, col. 17 L1-2, L18-26).

As per claim 11, Kedem discloses the transforming device is an interface card installed in an expansion slot of the diskless client and the expansion slot complies with the peripheral interface standard (col. 11L16-20).

As per claim 12, Kedem discloses a device wherein the peripheral interface standard is an IDE standard (col. 11L16-58).

As per claim 13, Kedem discloses a device wherein the peripheral interface standard is a PCI standard (col. 11 L58-61 and fig. 4).

As per claim 16, Kedem discloses a system wherein the interface circuit comprises: a PCI interface, coupled to the diskless client, for receiving the hard disk access command complying with the PCI standard; and an IDE controller, coupled to the PCI interface, for transforming the hard disk access command from PCI format to IDE format before the hard disk access command is delivered to the logical circuit (fig. 3 and col. 10 L35 to col. 11 L60: Kedem inherently discloses the process of converting a command from PCI bus format to IDE bus format).



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As per claim 17, Kedem discloses the system wherein the hard disk command is read, write or controlling command, and the requested disk access process is to execute a read, write or controlling operation on the storage area according to the hard disk command (col. 8 L43-60 and col. 9 L35-46, col. 18 L45-56).

As per claim 5, Kedem discloses the system wherein the network conforms to an Ethernet protocol (fig. 4 item #402).

As per claim 6, Kedem discloses the system wherein the network is a wireless network (col. 3 L32-48, col. 8 L28-32).

As per claims 1-4, 14, 15 they do not teach or further define over the limitations in claims 10-13 and 16-17. Therefore claims 1-4, 14, 15 are rejected for the same reasons as set forth in claims 10-13 and 16-17.

#### *Additional References*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a.* Sakarda et al., US 6,594,721 B1: IDE/PCI and/or PCI/IDE controller.

**Conclusion**

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KAMAL B. DIVECHA whose telephone number is 571-272-5863. The examiner can normally be reached on Increased Flex Work Schedule.

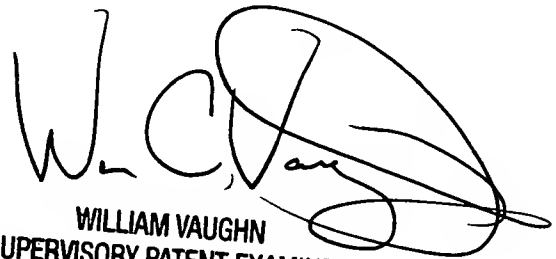
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarni Maung can be reached on 571-272-3939. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Kamal Divecha  
Art Unit 2151  
August 17, 2006.



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